

Applicant : Lars Abrahmsén et al.  
Serial No. : 10/081,408  
Filed : February 21, 2002  
Page : 2 of 10

Attorney's Docket No.: 13425-053001 / 00395-US

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A nucleic acid comprising a nucleotide sequence encoding a secreted fusion protein comprising:
  - (i) a signal peptide that directs secretion of the fusion protein from a host cell;
  - (ii) a soluble form of human semicarbazide-sensitive amine oxidase (SSAO);
  - (iii) a fusion partner that enables dimerization of the soluble form of human SSAO; and
  - (iv) a protease cleavage site located between the soluble form of human SSAO and the fusion partner.
2. (Original) The nucleic acid according to claim 1, wherein the soluble form of human SSAO comprises amino acids 29 to 763 of SEQ ID NO:2 or a fragment thereof.
3. (Original) The nucleic acid according to claim 2, wherein the fusion protein has benzylamine oxidase activity.
4. (Original) The nucleic acid according to claim 2, wherein the soluble form of human SSAO comprises amino acids 29 to 763 of SEQ ID NO:2.
5. (Original) The nucleic acid according to claim 1, wherein the fusion protein lacks the membrane spanning portion of human SSAO.
6. (Original) The nucleic acid according to claim 1, wherein the fusion protein lacks amino acids 6 to 26 of SEQ ID NO:2.

Applicant : Lars Abrahmsén et al.  
Serial No. : 10/081,408  
Filed : February 21, 2002  
Page : 3 of 10

Attorney's Docket No.: 13425-053001 / 00395-US

7. (Original) The nucleic acid according to claim 1, wherein the fusion partner is fused to the N-terminal portion of the soluble form of human SSAO.

8. (Original) The nucleic acid according to claim 1, wherein the fusion partner is glutathione S-transferase or a functionally equivalent variant thereof.

9. (Original) The nucleic acid according to claim 8, wherein the fusion partner is a variant of *Schistosoma japonicum* glutathione S-transferase, the variant having at least one of the cysteine residues in positions 85, 138, and 178 replaced by another amino acid residue.

10. (Original) The nucleic acid according to claim 8, wherein the fusion partner comprises the amino acid sequence of SEQ ID NO:4 or SEQ ID NO:5.

11. (Original) The nucleic acid according to claim 1, wherein the signal peptide is a mouse IgG1 heavy chain signal peptide.

12. (Original) The nucleic acid according to claim 1, wherein the protease cleavage site is a 3C protease cleavage site.

13. (Currently Amended) The nucleic acid according to claim 12, wherein the 3C protease cleavage site comprises the amino acid sequence EALFQG (SEQ ID NO:6).

14. (Original) The nucleic acid according to claim 1, wherein the fusion protein comprises the amino acid sequence of SEQ ID NO:20.

15. (Original) An expression vector comprising the nucleic acid of claim 1.

Applicant : Lars Abrahmsén et al.  
Serial No. : 10/081,408  
Filed : February 21, 2002  
Page : 4 of 10

Attorney's Docket No.: 13425-053001 / 00395-US

16. (Original) An expression vector comprising the nucleic acid of claim 14.

17. (Original) A method for the purification of a recombinant human SSAO, the method comprising:

- (i) transfecting a cell with the expression vector according to claim 15;
- (ii) culturing the cell in a culture medium and under conditions wherein the fusion protein encoded by the expression vector is secreted into the culture medium;
- (iii) binding the secreted fusion protein to a ligand having affinity for the fusion partner;
- (iv) separating the fusion partner and the soluble form of human SSAO; and
- (v) recovering the soluble form of human SSAO.

18. (Original) The method according to claim 17, wherein the ligand having affinity for the fusion partner is glutathione or a derivative thereof.

19. (Original) The method according to claim 17, wherein the fusion partner is separated from the soluble form of human SSAO by protease cleavage.

20. (Original) The method according to claim 19, wherein the protease is a picornavirus 3C-protease.

21. (Original) The method according to claim 20, wherein the protease is rhinovirus 3C-protease.

22. (Original) The method according to claim 19, wherein the protease is fused to a fusion partner resulting in a fusion protease.

Applicant : Lars Abrahmsén et al.  
Serial No. : 10/081,408  
Filed : February 21, 2002  
Page : 5 of 10

Attorney's Docket No.: 13425-053001 / 00395-US

23. (Original) The method according to claim 22, wherein the fusion protease is separated from the soluble form of human SSAO by a process comprising binding the fusion protease to a ligand having affinity for the fusion protease.

24. (Original) A method for the preparation of an immobilized recombinant human SSAO, the method comprising:

- (i) transfecting a cell with the expression vector according to claim 15;
- (ii) culturing the cell in a culture medium and under conditions wherein the fusion protein encoded by the expression vector is secreted into the culture medium; and
- (iii) binding the secreted fusion protein to a ligand having affinity for the fusion partner to thereby immobilize the fusion protein.

25-26. (Cancelled)